

Amendment dated May 14, 2003

Reply to Office Action of February 14, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

1. (original) A concentrated nitrogen and phosphorus fertilizer composition comprising, in combination:

an ammonium phosphite composition having a pH in solution with water in the range of about 5 to 8, a weight percent of nitrogen in the range of about 6 to 12, and a weight percent of phosphorus in the range of about 32 to 36 weight percent, said phosphorus comprising a phosphite ion in solution.



- 2. (original) The fertilizer of claim 1 in combination with an ammonium phosphate compound comprising a source of phosphate ions in solution.
- 3. (currently amended) The fertilizer of claim 1 in combination with a substantially equal amount of ammonium phosphate wherein the amount of phosphorus from the ammonium phosphate is substantially equal to the amount of phosphorus from the ammonium phosphite.
- 4. (original) The fertilizer of claim 1 in a water solution of  $9.6 \pm 0.6$  weight percent nitrogen and  $34 \pm 2$  weight percent  $P_2O_5$ .

Claims 5-7 (canceled).

8. (currently amended) A nitrogen and phosphorous phosphorus fertilizer composition comprising in combination a mixture of ammonia, phosphorous phosphorous acid and water adjusted to maintain pH in the range of about 5 to 8 where the composition includes nitrogen in the range of about 6 to about 10 weight percent and phosphorus in the range of between about 22 to about 36 weight percent.



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9. (original) The composition of claim 8 adjusted to maintain pH in the range of about 5.5 to 6.5.

Claims 10-12 (canceled).

- 13. (currently amended) A method for fertilization of plant material comprising the step of applying a fertilizer compound as set forth in any of claims 1-121-4 and 8-9.
- 14. (currently amended) A method of manufacture of a fertilizer composition comprising the steps of:

mixing water, a source of nitrogen and phosphorus phosphorous acid, and maintaining the temperature of the mixture at less than about 150°F and pH in the range of about 5 to 8 to provide a fertilizer having a concentration of phosphite ions,

wherein the fertilizer composition includes nitrogen in an amount between about 6 to about 10 weight percent and phosphorus in the form of P<sub>2</sub>O<sub>5</sub> in an amount of between about 22 to about 36 weight percent.

- 15. (original) The process of claim 14 wherein the nitrogen source is ammonia.
- 16. (original) The process of claim 14 wherein the pH is in the range of about 5.5 to 6.5.

Claims 17-20 (canceled).

- 21. (currently amended) The process of claim 19 14 wherein the nominal nitrogen—phosphorus—potassium composition of the fertilizer is 9.8 –34-0.
- 22. (currently amended) The process of claim 19 14 wherein the nominal nitrogen—phosphorus—potassium composition of the fertilizer is 9.6-34-0.





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23. (currently amended) The process of claim 19 14 wherein the nominal nitrogen—phosphorus—potassium composition of the fertilizer is 6.4-34-0.

24. (currently amended) The process of claim 19 14 wherein the nominal nitrogen—phosphorus—potassium composition of the fertilizer is 8.8-29-0.

25. (currently amended) A method of manufacture of a fertilizer composition having a nitrogen component and a phosphorus component in the form of phosphite ions comprising the steps of:

mixing water with an acid taken from the group consisting of polyphosphorus polyphosphorous acid, phosphorus phosphorous acid, analogs, derivatives and mixtures thereof and a nitrogen source at a temperature below about 150°F and at a pH of about 5-8 to provide a fertilizer having a concentration of phosphite ions,

wherein the fertilizer composition includes nitrogen in an amount between about 6 to about 10 weight percent and phosphorus in the form of P<sub>2</sub>O<sub>5</sub> in an amount of between about 22 to about 36 weight percent.

- 26. (original) The method of claim 25 wherein ammonia is the nitrogen source.
- 27. (original) The method of claim 26 wherein the weight percent of nitrogen is about  $9.6 \pm 0.4$  and the weight percent of phosphite is about  $34 \pm 2.0$ .
- 28. (currently amended) The method of claim 25 wherein the nitrogen source is including the further step of mixing a compound taken from the group comprising ammonium nitrate, ammonium phosphate compounds and mixtures thereof.
- 29. (currently amended) A product made by the process of any of the claims 14-28 14-16 and 21-28.



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30. (currently amended) A method of use of the product of claims 1-12 1-4 and 8-9 or 29 comprising the step of applying said product in liquid form to plants or soil as a fertilizer or fungicide, or both.

- 31. (new) The fertilizer of claim 2 wherein the concentration of phosphite ions in the fertilizer is greater than the concentration of phosphate ions in the fertilizer.
- 32. (new) The composition of claim 8 wherein the temperature of the composition is maintained below about 150°F.
- 33. (new) The composition of claim 8 wherein the composition includes ammonium nitrate.
- 34. (new) The composition of claim 8 wherein the phosphorus includes a phosphite component.
- 35. (new) The composition of claim 34 wherein the phosphite component includes monoammonium phosphite and diammonium phosphite.
- 36. (new) The composition of claim 34 wherein the composition includes a phosphate component.
- 37. (new) The composition of claim 36 wherein the phosphate component is selected from the group consisting of ammonium phosphate, ammonium orthophosphate, ammonium polyphosphate and mixtures thereof.
- 38. (new) The composition of claim 36 wherein the phosphate component is present in the fertilizer in an amount no more than the amount of phosphite component.

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- 39. (new) The composition of claim 36 wherein the phosphite component is present in the fertilizer in an amount substantially equal to the amount of phosphate component.
  - 40. (new) The method of claim 14 wherein the nitrogen source is ammonium nitrate.
- 41. (new) The method of claim 14 comprising mixing a phosphate component to provide a fertilizer composition having a combination of phosphite ions and phosphate ions.
- 42. (new) The method of claim 41 wherein the amount of phosphite ions is greater than the amount of phosphate ions.
- 43. (new) The method of claim 41 wherein the amount of phosphite ions is substantially equal to the amount of phosphate ions.